

WHAT IS CLAIMED IS:

1. An optical pickup device comprising:

a light source that irradiates light to an optical recording medium;

a focusing means for focusing the light emitted from the light source on the optical recording medium;

a diffraction means provided between the light source and focusing means to diffract the light emitted from the light source so that zero-order light resulted from the diffraction is focused by the focusing means on the optical recording medium while other diffracted light than the zero-order light goes to a focus shifted in the optical-axial direction not to be focused on the optical recording medium; and

a light detecting means for detecting a portion, reflected from the optical recording medium, of the zero-order light from the diffraction means.

2. The optical pickup device according to claim 1, wherein the diffraction means varies the efficiency of light utilization depending upon whether signals are to be written to the optical recording medium or read from the latter.

3. The optical pickup device according to claim 1, wherein the diffraction means varies the efficiency of light utilization depending upon the type of the optical recording medium.

4. The optical pickup device according to claim 1, wherein the diffraction means is disposed near the light source; and

divergent light emitted from the light source is incident upon the diffraction

means.

5. The optical pickup device according to claim 1, wherein the diffraction means is formed from a transparent optical material with transparent electrodes, the transparent optical material having the birefringence thereof varied when a voltage is applied across the transparent electrodes, to thereby make optical modulation of the diffraction efficiency.

6. The optical pickup device according to claim 1, wherein the diffraction means uses an acousto-optical element formed from a transparent optical material with an oscillating means, the transparent optical material having the birefringence thereof varied when the oscillating means generates ultrasound, to thereby make optical modulation of the diffraction efficiency.

7. The optical pickup device according to claim 1, wherein the diffraction means is a phase-modulated type diffraction grating.

8. An optical disk drive that writes signals to an optical recording medium and/or reads signals recorded in the optical recording medium, the apparatus comprising:

a light source that irradiates light to an optical recording medium;

a focusing means for focusing the light emitted from the light source on the optical recording medium;

a diffraction means provided between the light source and focusing means to diffract the light emitted from the light source so that zero-order light resulted from the diffraction is focused by the focusing means on the optical recording medium while

other diffracted light than the zero-order light goes to a focus shifted in the optical-axial direction not to be focused on the optical recording medium;

a light detecting means for detecting a portion, reflected from the optical recording medium, of the zero-order light from the diffraction means; and

a write/read control means for controlling the output of reading or writing light from the light source and the diffraction efficiency of the diffraction means.

9. The optical disk drive according to claim 8, wherein the diffraction means varies the efficiency of light utilization depending upon whether signals are to be written to the optical recording medium or read from the latter.

10. The optical disk drive according to claim 8, wherein the diffraction means varies the efficiency of light utilization depending upon the type of the optical recording medium.

11. The optical disk drive according to claim 8, wherein:

the diffraction means is disposed near the light source; and

divergent light emitted from the light source is incident upon the diffraction means.

12. The optical disk drive according to claim 8, wherein the diffraction means is formed from a transparent optical material with transparent electrodes, the transparent optical material having the birefringence thereof varied when a voltage is applied across the transparent electrodes, to thereby make optical modulation of the diffraction efficiency.

13. The optical disk drive according to claim 8, wherein the diffraction means uses an acousto-optical element formed from a transparent optical material with an oscillating means, the transparent optical material having the birefringence thereof varied when the oscillating means generates ultrasound, to thereby make optical modulation of the diffraction efficiency.
14. The optical disk drive according to claim 8, wherein the diffraction means is a phase-modulated type diffraction grating.